State Revolving Fund Loan Programs

Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

CITY OF COLUMBUS

SOUTH SIDE PUMP STATION AND FORCE MAINS PROJECT

SRF PROJECT CS182 399 03

DATE: October 10, 2008

COMMENTS MUST BE RECEIVED BY: November 10, 2008

I. INTRODUCTION

The above entity has applied to the Clean Water State Revolving Loan Fund (SRF) for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF Clean Water Program has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Max Henschen
Senior Environmental Manager
State Revolving Fund -- IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-8623

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:	South Side Pump Station & Force Mains Phase 1B (in part) Wastewater Improvements 1111 McClure Road, P. O. Box 1987 Columbus, IN 46202-1987
SRF Project Number:	CS182 399 03
Authorized Representative:	Keith L. Reeves, Director Columbus City Utilities

II. PROJECT LOCATION

The Columbus City Sewer Utility is in Bartholomew County and serves a majority of Columbus. The study area and 20-year service area are identical (Figure 1); the 20-year service area includes areas of potential annexation, as well as future service areas of regional sewer districts and sewer utilities currently served by the Columbus Wastewater Treatment Plant (WWTP). The South Side Pump Station and Force Mains project will occur in the Columbus USGS quadrangle, T8N, R5E, sections 1 and 2; T8N, R6E, section 6; T9N, R6E, sections 30, and 31, and T9N, R5E, section 25.

III. PROJECT NEED AND PURPOSE

Background:

The city completed master planning documents in 1996 and 2005 to examine sewer system overloading and long-term planning to accommodate projected service area growth. The city developed projects in Phase 1A, Phase 1B and Phase 2 to address the needs identified in the master plan, and submitted Preliminary Engineering Reports describing these phased projects to the State Revolving Fund (SRF) Loan Program for technical, financial and environmental review.

On November 29, 2006, the SRF approved funding for Phase 1A: the new Water Street Sewer, and at the existing WWTP, the new Headworks Screening and Pumping Facility at Haw Creek and improvements to the Mariah Basins; this work is largely complete.

Phase 1B included the Noblitt Park Sewer project, the East Side Sewer project, and the South Side Pump Station and Force Mains project. On April 8, 2008, the SRF Loan Program approved funding for the Noblitt Park and East Side sewer projects.

This document describes the remaining Phase 1B work: the South Side Pump Station and Force Mains project. The SRF will present Phase 2, the future WWTP south of the city, in a future Environmental Assessment.

South Side Pump Station: This Pump Station serves the Tipton Lakes area and the industrial park at I-65 and SR 58. Significant housing growth is occurring and an additional 1,000 homes are projected for the Pump Station's service area.

12-inch force main from the South Side Pump Station: This line in the right-of-way of SR 11 and is made of cement asbestos pipe. It has had failures in the Garden City area due to corrosion caused by hydrogen sulfide; approximately ten line failures have occurred over the last five years. The force main also crosses the old Columbus Municipal Landfill, which is a Superfund site. The line is undersized and cannot meet 20-year needs. Because of these issues, replacement of this force main is a priority for the city.

WWTP: The WWTP has several problem areas. The majority of the main process equipment at the WWTP has reached the end of its useful life. The Rotating Biological Contactors do not remove enough ammonia to consistently meet the effluent limits required by the city's National Pollutant Discharge Elimination System Permit (NPDES). There are persistent odors from the headworks, primaries, and anaerobic digesters. The anaerobic digesters have also experienced failure of the floating covers; a Biosolids Management Study has recommended upgrading the anaerobic digesters to a high temperature aerobic process that would produce a Class A sludge. The WWTP has limited peak capacity. Finally, the existing plant location compromises the city's proposed riverfront development plan. Growth projections indicate that the WWTP average design flows are anticipated to grow up to 14.0 million gallons per day (mgd) and to 33.0 mgd peak flows. The WWTP would need to be expanded to accommodate anticipated growth. The city plans to build a new WWTP south of the city next year, as Phase 2 of the 2-phase wastewater improvements initiative.

IV. PROJECT DESCRIPTION

South Side Pump Station and Force Mains: The Southside Pump Station and Force Mains project will construct a new pump station next to the existing pump station, as well as install new force mains to the existing WWTP. In addition, it will abandon the fragile force main which goes through the Superfund site. The proposed South Side Pump Station will be near the intersection of County Road 150 West and Opossum Creek. It will be a wet/dry well pump station with two 4,500 gallons per minute (gpm) submersible pumps equipped with variable frequency drive, odor control equipment, back-up power and radio telemetry. The project will provide for projected growth and will allow the city to carry flows to the future south WWTP.

From the new South Side Pump Station, a 24-inch force main approximately 5,125 feet long will be installed to the future south WWTP site, where the pipe will transition to a pipe 30-inches in diameter. That 30-inch pipe will continue northward to the recently constructed Headworks at the existing WWTP. A parallel 30-inch force main will also be installed; this second 30-inch line will pump flow southward from the Headworks to the future south WWTP; the flow in the other 30-inch force main will be reversed in the future to also carry wastewater to the future south WWTP. The 30-inch lines will total approximately 36,250 feet. The project will generally follow the existing electrical utility easement cross country to the future south WWTP, although approximately 2,000 feet of the proposed force main will be located within the road right-of-way. The typical construction corridor width for the force main will not exceed 45 feet. The force mains have been designed to transport 26 MGD to the future south WWTP.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

Construction	
South Side Pump Station and Force Mains	$5,578,925
Contingencies (10%)	$ 552,610
Construction Estimated Costs	**$6,131,535**
Non-Construction	
Legal and Administrative	34,200
Engineering Fees	
Design	336,240
Construction	74,560
Other	442,800
Construction Observation	175,400
Non-Construction Estimated Costs	**$1,063,200**
TOTAL ESTIMATED SOUTH SIDE PUMP STATION AND FORCE MAINS PROJECT COST	**$7,194,735**

B. An estimated cost of $10,000 to demolish an existing house along the South Side Force Mains route is ineligible for SRF financing. Columbus will borrow approximately $7,185,000 from the SRF Loan Program for a 20-year term at an interest rate to be determined at loan closing. The monthly rates and charges will need to be analyzed further to determine if any adjustments are required for repayment of the SRF loan.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

No Action Alternative: The South Side Pump Station/Force Mains project is necessary to replace an undersized 12-inch cement asbestos force main that has experienced line failures. Therefore, the no action alternative was rejected.

Parallel Force Main: Replacement of the 12-inch cement asbestos force main by installing a parallel line along this same route is not a feasible option due to lack of room within SR11 right-of-way and the environmental hazards/complications associated with crossing the old municipal landfill Superfund site. Therefore, this alternative was eliminated from further consideration.

The Recommended South Side Pump Station and Force Mains Alternative: The city's master plan evaluated long-term wastewater treatment needs and analyzed several alternatives. The recommended alternative proposes a new South Side Pump Station adjacent to the existing pump station near the intersection of County Road 150 West and Opossum Creek, with a 24-inch force main extending to a proposed future south WWTP and from there, continuing north with two 30-inch force mains to the recently constructed Headworks at the existing WWTP. The proposed route of the new force mains partially follows existing power easements and crosses property owned by Columbus Utilities and the city of Columbus. This is the only feasible route which addresses all of the pertinent issues; therefore, this is the selected alternative.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Archaeological and Structural Resources: The city conducted archaeological reconnaissance level surveys and more intensive subsurface investigations of the project area. The South Side Pump Station and Force Mains project will not affect archaeological resources or historic buildings, districts or sites. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "no historic properties affected."

Plants and Animals: The project will not affect endangered species.

Surface Waters (Figure 2): There are three crossings of permanent streams along the project corridor. The crossing of the East Fork of White River will be designed as a directional bore, and the two Opossum Creek crossings will be proposed as open-cut crossings. Ephemeral stream crossings will be open cut. The contractor will be instructed to obtain an NPDES Erosion Control Permit for the duration of the project construction. The project will not affect Exceptional Use Streams, Waters of High Quality, Salmonid Streams, Outstanding Rivers, or Natural, Scenic and Recreational Rivers and Streams.

100-Year Floodplain: The South Side Pump Station will consist of an approximately 20- by 30-foot concrete structure in the Opossum Creek 100-year floodplain. Preliminary designs indicate that the proposed structure will be approximately 25 feet to 30 feet deep. The structure will be almost completely below grade, but will displace approximately 45 cubic yards of floodwaters. The force mains will be underground and will not displace floodwaters.

Wetlands: The proposed force mains will cross a small section of palustrine wetland between East Fork White River and Opossum Creek.

Groundwater: The project will not negatively affect a sole source aquifer or other groundwater resources.

Prime Farmland: The proposed pump station project will directly convert prime farmland immediately next to the existing pump station; the force mains project will not directly convert prime farmland.

Air Quality: Air quality will be temporarily impacted by construction activities, including vehicle exhaust and dust.

Open Space and Recreational Opportunities: Construction and operation of the proposed project will neither create nor destroy open space and recreational opportunities.

The project will not affect National Natural Landmarks.

B. Indirect Impacts

Indirect impacts are those impacts made possible by implementation of infrastructure projects; typically, these impacts are related to growth and development made possible by the projects. Phase 1A and Phase 1B proposed projects will indirectly affect approximately 232 acres of prime farmland. Columbus' Preliminary Engineering Report (PER) states: "*The City of Columbus, through the authority of its Council, planning commission, or other means will ensure that future*

development, as well as future collection system, storage, or treatment works projects connecting to publicly-funded facilities, will not adversely impact wetlands, archaeological/ historical/structural resources, or other sensitive environmental resources. The city will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM, and other environmental review authorities."

C. Comments from Environmental Review Authorities

Authorities were asked to comment on Phase 1A and Phase 1B projects together. Comments from the review authorities pertaining to the Phase 1A projects or the Noblitt Park/East Side sewers Phase 1B projects have been deleted from the quoted comments below.

The Natural Resources Conservation Service (NRCS) commented on both Phase 1A and Phase 1B projects, and in correspondence dated May 31, 2006, stated: *"The project to make improvements to the wastewater system ...will cause a conversion of prime farmland."* The NRCS correspondence indicates that approximately 232 acres of prime and unique farmland may be indirectly converted.

The U.S. Fish and Wildlife Service (USFWS), in correspondence dated April 3, 2007, stated:

General Recommendations For Streams

1. *Maintain a vegetated buffer between construction and streams, except at stream crossings. The buffer should be at least 25 feet wide, but preferably up to 100 feet wide if possible. Where maintenance of an adequate buffer is not possible because of other physical constraints, locate the sewer line to minimize clearing of woody riparian vegetation and destabilization of streams banks.*

2. *Minimize erosion and cover or contain soil piles to prevent runoff to streams during construction. Stabilize disturbed stream banks as quickly as possible after construction is completed. Revegetate with native plant species in areas that are currently dominated by natural vegetation.*

3. *For crossings of ephemeral streams and small, low quality intermittent streams, excavate the crossing when the stream is dry whenever possible.*

4. *For perennial and blue line intermittent stream crossings, attach the pipeline to existing bridges or use directional drilling, rather than using an excavated crossing.*

5. *When excavated crossings of perennial streams and blue line intermittent streams are unavoidable, avoid mussel beds and areas of high-quality aquatic habitats, such as gravel/rock riffles, and avoid disturbance within the stream channel during the fish spawning season (April 1 – June 30).*

Site-Specific Recommendations

1. *At... the downstream Opossum Creek crossings use directional boring and avoid disturbance or riparian forest.*

2. *At the White River crossing locate the sewer line to avoid disturbance of riparian forest for bore pits, staging areas and other disturbance.*

3. *Restore emergent wetlands to original grade and revegetate with native plants suitable for wetlands.*

4. *Revegetate all riparian areas along the White River...with native plants.*

Endangered Species

The proposed project is within the range of the federally endangered Indiana bat (Myotis sodalis) and federally threatened bald eagle (Haliaeetus leucocephalus). The project area contains suitable habitat for both species. The nearest eagle nest is several miles upstream from the project area, however to our knowledge the area has not been surveyed for Indiana bats. If tree clearing is avoided along the White River ...and the downstream crossing of Opossum Creek during the period of April 15 through September 15, we concur that the proposed project is not likely to adversely affect these listed species.

The Indiana Department of Natural Resources (IDNR) Environmental Unit, in correspondence dated May 3, 2007, stated:

This proposal will require the formal approval of our agency for construction in a floodway pursuant to the Flood Control Act (IC 14-28-1), unless it qualifies for utility exemption under Administrative Rules 312 IAC 10-5-4.... Please include a copy of this letter with the permit application (if required).

The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity

The directional bore method should be used for crossing all perennial streams wherever possible. Intermittent streams can be crossed by open-trench with minimal impacts in the summer when they have run dry or are at their lowest annual water levels.

Bank stabilization for streams crossed by the open-trench method should use as little riprap as possible. The use of riprap from the ordinary high water mark (ohwm) down to the stream bed is acceptable for stream bank toe protection. However, above the ohwm a method of bioengineered bank stabilization should be used such as turf reinforcement mats or heavy duty erosion control blankets (biodegradable) combined with the use of live native vegetation. Turf reinforcement mats are compatible with native vegetation (including woody vegetation) so the disturbed bank can be restored to a natural appearance and function after the work is completed. The Natural Resources Conservation Service (NRCS) publication "Streambank and Shoreline Protection" at the following link contains descriptions of several bioengineered bank stabilization methods: http://www.info.usda.gov/CED/ftp/CED/EFH-Ch16.pdf.

Fish, wildlife, and botanical resource losses can be expected to occur as a result of this project. These losses can be minimized through implementation of the recommendations above and the following measures.

Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue), legumes, and native shrub and hardwood tree species as soon as possible upon completion.

Minimize and contain within the project limits inchannel disturbance and the clearing trees and brush.

Do not work in the waterway from April 1 through June 30 without prior written approval of the Division of Fish and Wildlife.

Do not cut any trees suitable for Indiana bat roosting (greater that 14 inches in diameter, living or dead, with loose hanging bark) from April 15 through September 15.

Use minimum average 6 inch graded riprap stone extended below the normal water level to provide habitat for aquatic organisms in the voids.

Plant native hardwood trees along the top of the bank and right-of-way to replace the vegetation destroyed during construction.

Post "Do Not Mow or Spray" signs along the right-of-way.

Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.

Plant live trees, at least 2 inches in diameter-at-breast height, for each tree which is removed that is ten inches or greater in diameter-at-breast height.

Seed and protect all disturbed streambanks and slopes that are 3:1 or steeper with erosion control blankets (follow manufacturer's recommendation for installation); seed and apply mulch on all other disturbed areas.

A mitigation plan is recommended when a project's impacts to non-wetland forest within urban floodways will require more than 5 trees to be removed that are 10 inches or greater in diameter-at-breast height.

Impacts to non-wetland forest over 1 acre should be mitigated at a minimum 2:1 ratio.

The IDNR Division of Historic Preservation and Archaeology (DHPA) stated in correspondence dated June 25, 2007, and reiterated in correspondence dated October 3, 2008: *Based on our analysis, it has been determined that no historic properties will be altered, demolished, or removed by the proposed project.* In the October 3, 2008 correspondence, the DHPA also stated: *In terms of archaeology, we concur with the archaeological report that no archaeological resources eligible for inclusion in the National Register of Historic Places have been recorded in this portion of the project area. Therefore, no further archaeological investigations are necessary for this portion of the proposed project area. If any archaeological artifacts, features, or human remains are uncovered during construction, state law (Indiana Code 14-21-1-27 &29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days. In that event, please contact (317) 232-1646.*

VIII. MITIGATION MEASURES

The city's PER states:

Short-term erosion and siltation impacts will be controlled and monitored by the contractor during the installation and construction of the sewer mains and corresponding structures.

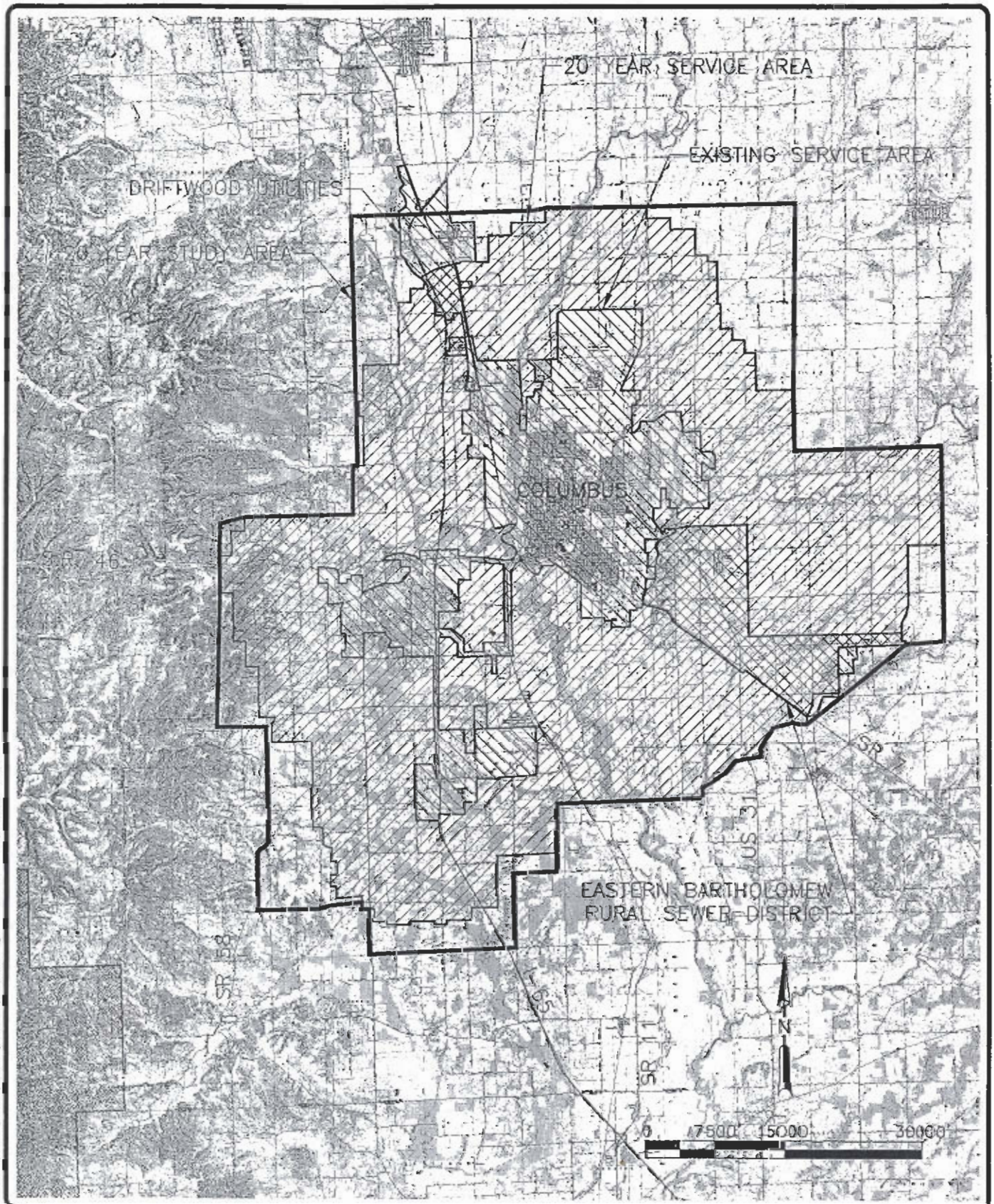
Any mitigation measures to lessen wetland impacts cited in the comment letter about the project from the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented if feasibly possible.

Reasonable mitigation measures will be taken to minimize the dust and noise generated during the construction of the sewer collection system, (and) *permanent structures (lift station). In an effort to mitigate the effects of increased noise during construction, most construction activities will be limited to daylight hours. Similarly, efforts will be used* (to) *mitigate the effects of increased dust during construction. As a means to control excess dust, the construction contractors will be encouraged to water key construction corridors, as needed, during the projects.*

Dewatering may be required to temporarily lower the groundwater table during construction of mains and structures to facilitate construction. The dewatering process may temporarily impact the unconsolidated groundwater, but will not likely affect any groundwater drinking water source.

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held at 5:00 PM on April 12, 2006 at the City Council Chambers to discuss the PER and to solicit public comments. The city received no written comments in the 10-day period following the hearing.



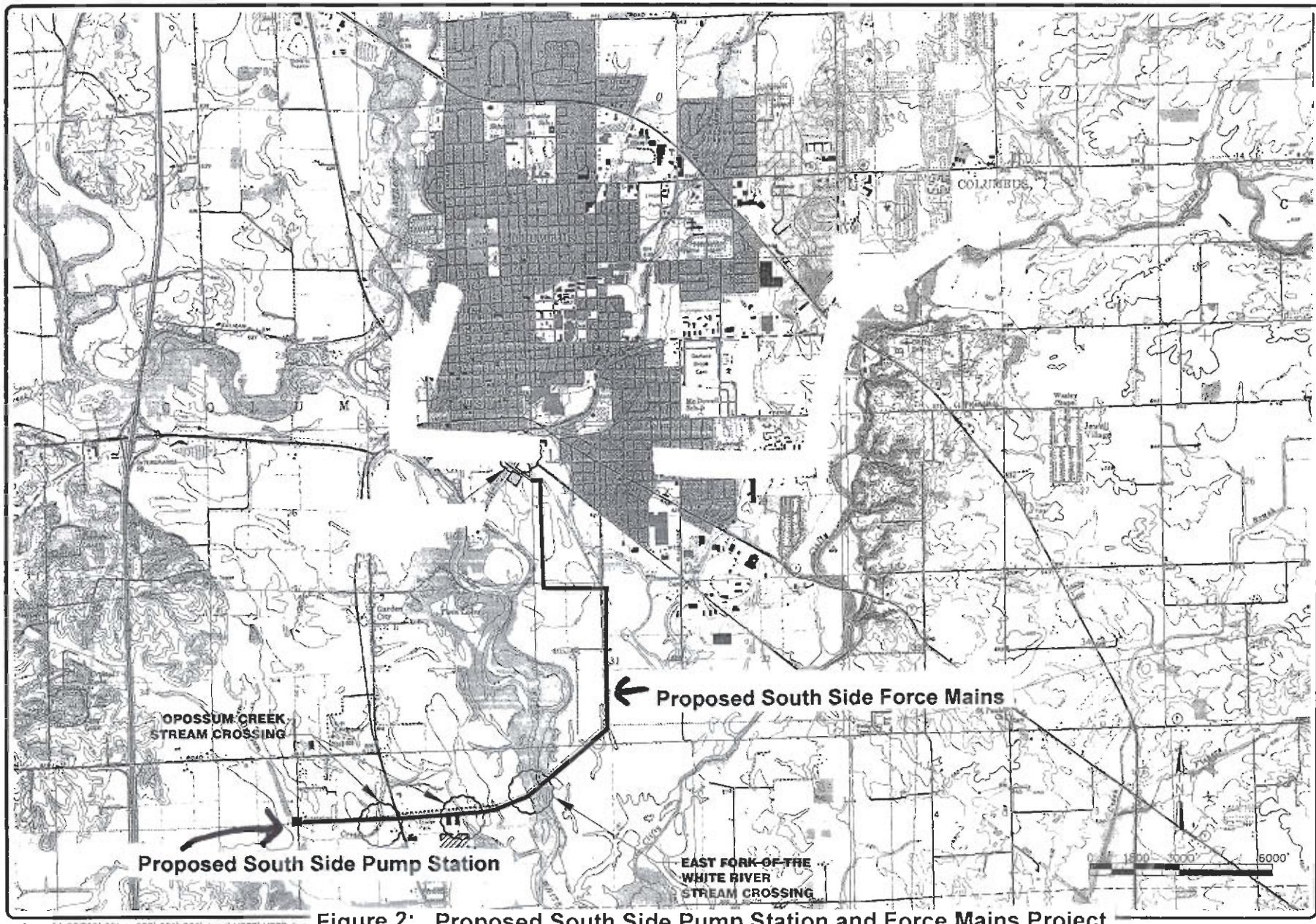
EXISTING & 20 YEAR SERVICE AREAS

PRELIMINARY ENGINEERING REPORT
COLUMBUS CITY UTILITIES
COLUMBUS, INDIANA

STRAND ASSOCIATES, INC.® ENGINEERS

FIGURE 1

File: S:\@SIECO\091---050\021\006\Acad\USGS\USGS.dwg Time: Apr 26, 2006 - 5:33pm



STREAM CROSSING LOCATION MAP

PRELIMINARY ENGINEERING REPORT
COLUMBUS CITY UTILITIES
COLUMBUS, INDIANA

STRAND ASSOCIATES, INC.
ENGINEERS

FIG. NO. 5.06-1
REVISED 1/9/07

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Figure 2: Proposed South Side Pump Station and Force Mains Project